first access in their community at all. And I think we have beginning evidence, and I really urge that you take a close look at that, that where E-rate has brought broadband it has served the broader community, whether that is under the consortia rules that apply to E-rate that at least allows other community institutions to buy in at the negotiated rate or that the libraries and schools are making these services available. We have -- we have good but anecdotal evidence of that.

We also have evidence that the E-rate has created creativity around access to broadband. I had colleagues here from Texas and Idaho, who I think had to go to another event, who are both in the education community, and they talked about the creation of regional consortia. These are consortia created by educational institutions in rural areas where they are wiring themselves together and either through, in Texas, the state and its buying power, or directly with the provider, are creating new sources of broadband where for many of them individually would not be available. That's the good news.

Here is what we know about competition. We know that for the most part the schools and libraries are reporting they have one provider. It's their incumbent phone company, and but for E-rate they could not afford this access because there is no competition driving down for them

in the marketplace yet.

And I guess the other finding is that I did hear from a lot of rural schools who said, you know, we have the E-rate and we can't -- you know, we can't buy what we need at any cost. And as I said, broadband is a bottom line. You cannot conduct distance learning which in today's environment is real-time video over the internet, or training for teachers from the entire state over the internet without high-speed access.

So I think my message here is that there is something happening. It's very important. It's a piece of this, and we shouldn't be separating it from 706. It's a part of it, and I think that there are some creative strategies going on here that I would urge you to look at and a need for quite a bit more research on these anchor tenants.

MS. SANFORD: Thank you, Leslie.

Jon Garcia.

MR. GARCIA: Good morning, delighted to be here to talk to you about broadband, and the perspective that I bring is really a background in the economics and the technology. I should say that these are strictly my own and not those of McKinsey or its clients.

Broadband is exciting because it really is the next big thing, I believe, in telecommunications, with

implications akin to those of what happened in the world of telecommunications with the introduction of wireless services or the internet itself.

Indeed, we at McKinsey estimate that we will have approximately 30 million broadband subscribers, broadband residential subscribers inside of five years, driving enormous value creation in the telecommunications and the internet industries.

The deployment of the supporting infrastructure will also come very swiftly driven in part by this enormous opportunity. So inside again of five years we estimate that approximately 80 percent of residential households in the United States will have access to some kind of broadband platform, be it DSL, cable modem service, MMDS service, or new build HFC high-speed service; and that these services or these deployments of platforms will be drive in the way that you expect all deployments of telecommunication services to be driven, which is to say that it will go to the most attractive households first, but less attractive households will follow.

And what makes an attractive household? Well, there are basically two things that will drive that. The first is density, the concentration of customers in a give area, how many of them there are. For a cable modem provider by way of example dropping the density of users in

a given square kilometer by one-half more than doubles the cost of actually upgrading the plant and supplying broadband service.

In the case of MMDS, the capital efficiency of deploying the network equipment, the radio equipment that broadcasts the wireless signal is also dramatically affected by density.

And finally in the case of DSL, density is tightly correlated with loop lengths, which as we all know when they become longer they become less capable of delivering broadband service, and beyond about 15 kilofeet impossible to deliver true broadband service under the definition discussed today.

The other thing that will drive the deployment of broadband platforms to particular areas first rather than later will be concentrations of households that are attractive from a demographic standpoint, and what this means is high median incomes. It means high degrees of online usage. It means high PC penetration. And the reason is very simple. As a provider of very capital-intensive network platform, which is what all of these broadband platforms are, extraordinarily capital intensive, it's critical to reach penetrations that are higher rather than lower, earlier rather than later.

And so the combination of good demographics and a

dense area served off of a set of network assets that comprise the fixed capital you would deploy are what the recipe for success are for broadband deployment.

So the thing that is exciting as we look forward about what might happen in the broadband world is not only that these areas will get covered, but also that adjacent areas ultimately get covered as the incremental power of serving more customers off of these assets brings itself to bear.

MS. SANFORD: Thank you very much, thank all of you panelists.

We have questions. I will start out with the first one and of course encourage the members of the Joint Conference to jump in with follow-up questions.

Overall, broadband deployment has grown tremendous in the past year, yet there have been assertions that broadband services are not reaching rural communities as rapidly as other areas. This is a two-part question.

First of all, do you think this is true? If it is true in some places but not in others, then what, in your opinion, drives broadband deployment in certain places, certain rural areas but not others?

Please make your answers, those of you who wish to respond, as succinct as possible, and let's allow for some participation by members of the conference.

Who would like to take this one? I see Chris reaching for his button.

MR. MCLEAN: I'll defer to Marie first.

MS. GUILLORY: Go ahead.

Well, of course, we don't have any evidence that broadband is not being deployed in rural areas at the same rate as it's being deployed in other areas. I think that's one of the things that you really need to do some research on to find that out.

I think what you have with rural telephone companies, with the small telephone companies is this extreme interest in being ahead of the curve and going forward with the deployment. But as I said in the general remarks, I think the problem is getting, getting to the last mile and getting to the last customer, and it's a cost issue.

MS. SANFORD: Thank you, Marie.

Chris?

MR. MCLEAN: I do think that there may be two rural Americas to look at; the rural Americas that are served by companies that are financed by RUS and small and independent companies that are members of NTCA, Marie's association.

And RUS-financed companies, particularly where they have made investments since 1993, since the adoption of

the English amendment, they are deploying plant which is capable of broadband services. In other words, the outside plant is designed in a way that it can easily evolve into being able to meet those services.

There is also important two parts of rural America, those parts of rural America that are able to benefit from the universal service support mechanism which is in place now for rural LECs that is investment driven, that allows for the recovery of cost and the non-rural LEC universal service mechanism which has study-wide averaging 135 percent above cost which in many cases provides no support for particular rural areas.

So I think that there are differences in deployment in those two parts of rural America, I think are very worthy of further investigation.

MS. SANFORD: Thank you. Questions from conference members? Steve?

MR. FURTNEY: I have a question for the panelist, and I think Marie addressed it a little bit.

Do we agree -- when we are talking about standards do we agree that 200 kilobits per second in the last mile is the standard we should be looking at from a regulatory standpoint given that the regulatory process tends to be reactive instead of proactive?

MS. GUILLORY: Are you asking me since I brought

it up?

MR. FURTNEY: I would ask it of all the panelists but I think you mentioned it.

MS. GUILLORY: Right.

MR. FURTNEY: And I'm just asking is that the standard?

MS. GUILLORY: Are we in agreement that that's a common denominator standard that we should be looking at at this point in time?

MS. GUILLORY: It's the definition, of course, that the Commission came up with, and I think it is one definition. I'm not sure that if you look at an evolving definition of universal service in a universal service context, whether you want to limit support to just that transmission rate because there may be some other solutions to delivering certain applications that don't involve that transmission rate.

MR. MCLEAN: And of course, I would encourage the conference to look to the standards set out in the English amendment in Rural Electrification Loan Restructuring Act.

MS. SANFORD: Thank you.

I have one more follow-up on this line of inquiry. Do any of you know of efforts to deploy broadband services in rural areas via non-wire line technology such as fixed wireless or satellite that are of significance and that this

conference should look at?

MR. ROHDE: I'll go ahead and take a stab at that one.

I think, as you look at the whole question of deployment of broadband services, I think you have to look at it from as many technological opportunities as possible. I mean, the solution for broadband in many rural areas that are sparsely populated may very well entail multiple technologies since we know that DSL and cable modems are distance-sensitive at this point.

Maybe some improvements could be made to those technologies in coming years but certainly wireless is going to play a key role. We know there are a number of people who hold MMDS license and LMDS licenses that are looking those frequencies and using those frequencies to deploy advanced telecommunication information services which hold a great deal of promise and can perhaps provide some of this.

There are satellite systems that have been licensed by the FCC that are scheduled to come on line in a couple of years. We don't know for sure exactly what the quality of that service is going to be, what the cost of that service is going to be to a customer partnering with a local carrier on the ground, but those also hold a potential promise for providing broadband access.

MS. SANFORD: Okay, thank you.

Chairman Thompson has a question.

MS. THOMPSON: I wanted to follow-up on comments you made initially in this question. You described the services currently delivered under existing funding programs to telemedicine and distance education programs as anchor tenants, and I think that's an intriguing concept.

To what extent can aggregation of demand for pooling of the resources better use of the resources that are now devoted to delivering those services be a part of the solution to delivery of broadband services in rural America? And how can we as regulators make sure that that happens -- that that opportunity exists?

MS. HARRIS: Well, I mean, I think it's already starting to be demonstrated in some rural and urban areas, you know, through the schools and libraries, and I'm less familiar with sort of their linkage with the community health centers.

I think we -- inside the E-rate you probably need to take a look at the consortia rules and make sure they are friendly enough there. I think there has been some concern that they are complex and in some ways discourage that aggregation.

I do think that schools themselves in rural areas have figured out this aggregation concept and that's why we have created in Texas and Idaho and some other places these

sort of regional consortia. If you could create those regional consortia and at the same time treat them anchor tenants, thinking about how others could buy into that, if not at the ultimate discount rate that the E-rate provides, but at, you know, whatever that negotiated base rate is, I think you could build and end quite a bit.

MS. SANFORD: Thank you.

Commissioner Furchtgott-Roth?

COMMISSIONER FURCHTGOTT-ROTH: Thank you.

Anyone who has ever spoken with Senator Burns about Section 706 knows he is passionate about it, and he is passionate about the deployment of advanced services and he's also passionate about deregulation, and he particularly wants to see deployment of services in rural America.

In am intrigued, Ms. Guillory, by your comment that part of the problem is cost, and 706 is an extraordinarily deregulatory act. It is not an instruction to the Commission to invent new regulations but in fact it is to forebear from regulation, to remove barriers to entry, which are most likely regulations, and to promote competition.

I am just curious if there is specific things that the Commission could do to remove barriers to entry and promote competition that would help with that last problem that you describe or anyone else on the panel?

MS. GUILLORY: Well, I think the uncertainty is part of what prevents businesses from moving forward, and I think the present regulatory environment. It's not an environment that you have created, but it's just the way it is, the big issues have not been settled, and they haven't been settled in a comprehensive way so that there is uncertainty in terms of going forward.

And I think one of the things that certainly on the federal side you could do is to wrap up those issues, and I don't think that time necessary should go ahead of a comprehensive look because it's important both that decisions are made in a timely fashion and that they address all of the issues because a piecemeal kind of settlement of issues leaves further uncertainty.

So I think part of what you could do is to look comprehensively at the big issues that are facing the small TELCOs that serve rural areas and provide some degree of certainty for the future so that they know where their revenues are going to be coming from, for example, and what they are going to be, and can plan accordingly.

MS. SANFORD: Thank you.

Commissioner Bob Rowe had a question and then Commissioner Perlman and then I am making some adjustments in the list of questions here. But after those two, we will move to the next question.

COMMISSIONER ROWE: Following up on the aggregation discussions, I've had some experience trying to support commercial aggregation among customers who individually couldn't get their complete needs met, but possibly could collectively.

My experience is that it's very tough even on the commercial side to get parties together to put together a proposal and a bid. For a number of reason, they may have needs that may not be fully compatible. They may be in different places in a contact. They may be reluctant to do that kind of sharing.

Examples of effective commercial aggregation models would be extremely helpful. Can you point to any?

MR. ROHDE: I could. In NTIA, we have actually had some experience with this. We have a technologies opportunity program, it's a grant program that we administer, and since 1994, we have provided over $184 million in federal grants and national and local grants and a number of the grantees that we have worked with over the years have been involved in community-wide aggregation and looking at community-wide networking. We have a variety of good examples, and I would be happy to provide to this Joint Conference a you travel around the country and hold your hearings, to get you in contact with a number of the people that we have worked with who have experimented and put

together some of these aggregation models.

There is some really good examples out there, and I know one in particular that I have worked with in Aberdeen, South Dakota, where the Community Economic Development Director got the business community, the educational community, the hospitals, the entire community together and worked with their cable operator to provide high-speed access within that community. It never would have happened otherwise, so we see some successes in that.

MS. SANFORD: Thank you.

Commissioner Perlman?

COMMISSIONER PERLMAN: I've heard several of the panelists allude to the need for more research, and I think one of the things that would be helpful is to get some of the thinking here on how we would put together maybe a model where we could look holistically across the country and understand where there are issues regarding cost and demand, so that we could then target policies to address those needs with a demand aggregation or universal service too.

Are there thoughts from the panelists on how we would go about investigating this to come up with a consistent model that we can look across the country so that we are comparing apples to apples?

MS. GARCIA: I mean, there are known places to go to for things like DSL deployment. For example, the TELCOs

will tell you with some degree of specificity where they expect their footprint, their DSL footprint, or what they expect that footprint to look like over time.

There is also data available on the extent to which cable systems have been upgraded, which is a nice way of thinking about whether they have the capability to deliver broadband service.

But at the end of the day the kind of communities that this group is most interested in, which are the communities that are on the edge or less likely to get served, are typically going to be lower income communities and communities that are in the middle of nowhere, rural communities were densities are very, very low.

And I think the trick to understanding whether those communities are going to get served or more properly when they are going to get served with broadband is really doing two things. It's, number one, understanding the technologies that are available to serve the rural communities and there is certainly a lot of activity in the satellite space, but those are systems that are several years off.

Maybe more promising is MMDS where MCI and Worldcom has made a major investment. They have publicly announced deployment plans about what they intend to do and getting an understanding of that by way of example. And the

in the inner city there are a number of what I would call new build companies who are looking at MDUs by way of example. Approximately 20 percent of all households in the U.S. are MDUs. A disproportionate number of them are actually lower income households, and there are a bunch of folks looking right now at opportunities to serve MDUs, including low income MDUs because of the concentrations of potential customers that they supply. Understanding what those folks are doing would be, I think, valuable to this set of people.

MS. SANFORD: Commissioner Powell?

COMMISSIONER POWELL: Thank you. I just wanted to make an observation as well, that in the effort to collect a comprehensive map or picture about broadband deployment, it's really important for this group to also understand that there are substantial drivers and incentives for many institutions to be trying to drive the same objectives, and we should be careful to take cognizance of them and collect their effects as well rather than being totally narrow to the realm of public policy.

I will give you an example, the question of demand aggregation or anchor tenancy, I think one of the most significant developments I have seen to date is Ford Motor Company's decision to hand every employee a computer and to provide internet access service at $5 a month, quickly

followed by Delta Airlines and rumored to be about to be followed by some 30 major corporations. I can't even envision a more spectacular splash of computing power or access power than that sort of thing, and that's not to say that's necessarily our bailiwick, but to keep collecting and understanding of the kinds of things that may be outside of public policy that will play in public policy will be important.

Having once worked for Ford Motor Company, their locations are wide and far, and include many of the communities I think we are concerned about. Many of them will suddenly be bringing home shiny new boxes and if there is not a pretty viable business plan to try to go get Ford employees in those areas.

So I would just encourage the group to also, through alternate sources if we can, to keep track of other efforts that might be a bit outside the realm of public policy, but would nevertheless impact our perspective.

MS. SANFORD: And you point directly to the next question, which is certainly not going to be answered in this room today, but that question being what is the best way for this group to go about collecting data that's granular enough and inclusive enough to determine if broadband services, where they are being deployed with adequacy, and the extent to which the deployment is reaching

rural areas and inner cities?

I mean, data gathering is a big part of the challenge before us, and it's being done in lots of different places, but there is an obvious imperative for there being some accurate and global look.

DR. WILHEIM: I think you have to piggyback off of the census data that's already being collected and add questions on broadband accessibility and demand. Certainly that's probably already in the works. But it's also a matter of getting a large enough sample to actually say something meaningful about the access of broadband in underserved communities like in rural America among Native Americans.

Once you get down to that level, it's really -- you have a hard time in terms of the reliability of the data sometimes in the service that is really only reaching a small percentage of the population right now. We really need to be careful that we capture enough, large enough sample to say something meaningful and track that over time.

I also mentioned the Delaware example of the GIS system they have developed, which has catalogued comprehensively public access centers statewide that are providing some sort of access to the community, and then overlaying that with demographic variables so that you understanding where deployment is happening, where it's not

happening, so that policies like the President's new community center initiative can be really targeted toward the communities in need.

It was interesting that in Delaware, for example, when I looked at their map there wasn't a single school on the entire map because not a single school in the entire State of Delaware opens its facilities before and after school to the community. And we see in Detroit, though, as a result of the E-rate, that it's actually starting to open up its facilities and seeing itself as a community center for the broader community and the E-rate has made that possible in providing the facilities in 11 schools to bring in the community.

MS. SANFORD: That's wonderful information, but we need a systematic way to capture this kind of data.

Greg, did you have something?

MR. ROHDE: Yes. We maybe can help with this. There is currently right now my colleague, Chris McLean, NTIA and RUS are completing a study, which is anecdotal however, of broadband deployment in rural areas which we hope to release within a matter of weeks, which I hope will provide some assistance in this question.

What we did in completing that study we used the engineers at both of our agencies, as well as the research engineers at our ITS lab in Boulder, Colorado, who spoke

with engineers in phone companies, cable companies, wireless companies, and did an assessment. It's anecdotal but it might provide some help, and we will be releasing that soon.

Another thing I will mention is that the Commerce Department and NTIA have published a fall-into-the-net study that looks at these statistics. We are now going to do this on a annual basis, and in the next round we are collecting census data on the very question of broadband deployment,. which we haven't collected in the past. So we are hopeful we will have more tools that will be available as we proceed with that fall-into-the-net study in the future.

MR. MCLEAN: In addition, the FCC's data collection, I think, will be very helpful in future a analysis, and at the RUS we have worked very closely with the FCC to share on an appropriate basis information about deployment that we have in our 800 and some borrowers, and we can work together with you on that as well.

MS. SANFORD: Okay, thank you.

Commissioner Powell?

COMMISSIONER POWELL: I would add that there are a number of state and local entities who probably have as much or more of an acute interest in deployment in their communities as we do at the state and federal level. I, for example, would point out that I suppose if you were to survey cable franchising authorities you would get a pretty

quick picture of what access is.

Subscribership is a completely different statistic and more difficult to get at, and I think we have to be careful to distinguish between -- when we're talking about these issues whether we're talking about access and potentiality or you're talking about subscription. Subscription can be much more complicated as to why people take services or don't.

But franchise authorities and state and local offices I've been shocked to find or not so shocked to find, you will be surprised at the number of these offices that have individuals dedicated to trying to spur economic development, deployment, who have a pretty good picture of what's available in their communities and in the areas, and if we could somehow systematically access those, including the development or promulgation of voluntary surveys to local development offices, business development offices, cable franchise authorities, that might be one way to get a better picture than we normally employ.

MS. SANFORD: An excellent point. And from the perspective of someone who is trying to accumulate this information in her home state, we are very interested in those data accumulation techniques that are working well in some communities and less well in others because it is impossible to address the problem until we understand the

extent of it. Thank you.

One more question or one more prepared question. What can you tell us about a community's ability or communities' abilities generally, to access nearby backbone facilities? That is, are there a sufficient number of points of presence in rural communities?

I think we saw -- there was a brochure distributed yesterday that had in large portrayal, I think, some indication of location of POPs in rural areas.

MR. GARCIA: One thought on this is that it's not simply the number of POPs or whether there is a POP in a rural area. What is actually a big problem in many suburban areas, many wealthy suburban areas in addition to rural areas or even poor areas is that the transport from the points of concentration in a broadband network to backbone facilities is actually in very short supply.

And so it's not -- you can really think of there being two layers. There is the last mile that connects my house or apartment to the point of concentration, and then there is another layer which doesn't get nearly enough attention which is metropolitan or local area transport.

And in a broadband world where you have folks using substantially more bandwidth than you do in the telephone network, what you rapidly discover is that in many areas there is not enough capacity to get you from the phone

company's central office or the cable company's head-end to the backbone, and this is a problem that exists not only in rural areas, but also in other areas, and it's one of the reasons why the cable companies have invested very heavily in developing regional data networking capabilities. This is what "At-Home," for example, has done, and it's one of the things that I know the ILECs have spent an awful lot of time thinking about and trying to get over the hump of too because we don't see it yet since the penetrations are so low and the bandwidth intensity of applications is so low, but we will in a world where we have 15 or 20 percent broadband penetration and much more rich media content, we will see the backlog move from the last mile to the middle mile before we actually get on the backbone.

MS. SANFORD: Thank you.

One last, last question, and then we will conclude this panel unless any of the members of the Joint Conference have something to add.

Is there room for state financial incentives in this arena as a productive measure? And if so, how does one keep them competitively neutral and technology neutral?

Anybody want to take that one?

MR. MCLEAN: Well, let's see, first there needs to be the commitment, a decision that, yes, 254 and its requirement of access to advanced services, and 706 and

uniform deployment have meaning, and that we're not going to try to find some magic bullet there. It's the responsibility both at the state and federal level to do that.

You can do it on a competitively neutral basis by saying, you know, yes, this support will be available, and come on out and get it, and come out and deploy the plan.

But if you don't make that first decision of commitment, there will be the uncertainty that exists in the marketplace and I think as Marie has said and what we have seen in our own program that there is a reluctance to invest in sparse, particularly in sparsely populated areas because there is an uncertainty that they will be able to recover their costs through the universal service support system or through the marketplace itself.

MS. SANFORD: Thank you. If there are no further questions from members of the conference, I want to thank our panelists for a very stimulating --

(Applause.)

Thank you very much. We will be only briefly at ease. We are not going to take a recess in light of our commitment to a seamless flow from one panel to the other. We will, however, excuse these panelists, ask the others to come to the stage, so give us just a moment to make the transition here.

If folks would just try to stretch at your seats, we are going to begin in another minute.

(Pause off the record.)

COMMISSIONER NESS: If we can all have a seat, we are about to begin.

I'd now like to introduce Irma Dixon, who is the Chair of the Louisiana State Commission.

COMMISSIONER DIXON: Thank you so much, Commissioner Ness, and I'm excited to be here today just to discuss these important issues on our inner city broadband deployment. You know we had planned a seamless conference for you today, but we did not plan the separations in seating that we have. I don't know if you have noticed, the women on the right and the men are on the left.

(Laughter.)

But that's alright, we are always right, huh? Susan says it's a seniority move here.

Anyway, our panel today is very vital and I can't wait to introduce them.

The first one is Donald Vial. Donald is the Chair of the California Foundation of Environment and Economy. Previous position include commissioner of California Fair Political Practice Commission, Research and Education Director. He served as past president of the Association of California Consumers, a member of the board of directors of

industrial relations research at KQED Public TV. He received his Master's Degree in economics at the University of California, Berkeley, and he's the chair of Alliance for Public Technology where he worked with Marie Lewis, who really worked to create this collaborative entity called the Joint Board.

Our second panelist will be Lisa Zifcaf, I hope I got that right, Lisa, Research Analyst, Telecommunications Policy of the Consumer Energy Council of America. She has got a B.A. from George Washington University, an MBA from the Virginia Commonwealth University and principal author of the latest CECA publication, Findings of the CECA Broadband Access Summit which was done in March 2000, actually just published.

The next speaker will be Curtis White. Curtis is recognized expertise in the area of domestic and international communications licensing, complex business development projects, corporate finance, joint venture and multiparty negotiations. His regulatory communication experience includes representation or consultancies in the area of common carrier cable/wireless services, broadcast, direct broadcast and satellite. He is president of Allied Communications, Inc. the Washington, D.C.-based competitive local access -- I'm sorry -- exchange carrier specializing in bundled and broadband products and services. Curtis

earned his J.D. from Georgetown University Law Center where he also served as adjunct professor of communications law; an undergraduate degree from Florida A&M University.

The next speaker will be James Coltharp -- I hope I got that right, James. He joined Comcast Corporation as senior director of policy, public policy, in 1997. His duties include representing Comcast before the FCC and federal agencies. He previously served as special counsel of the FCC to Commissioner Quello in May 1996 through August of 1997, where he advised him on telecommunication policy matters, cable matters and mass media issues. His prior service at the FCC, he was appointed chief, economic, in the Wireless Telecommunications Bureau and he served as special advisor to Commissioner -- former Commission Andy Barrett, who is in the audience today, where he was responsible for common carrier cable television and telecommunications policy. Mr. Coltharp received his M.A. in economics as well as his B.A. in economics and public administration from Miami University.

And our last speaker, Vincent Thomas, Economic Development Specialist with the Office of the Assemblyman Albert Vann, who I served with when I was in the legislature, New York Assembly. As such, he specializes in telecommunications issues and their impact on community economic development. Mr. Thomas formerly served as

telecommunications policy analyst for the State of New York, Department of Economic Development, Governor's Telecommunication Exchange. He received his B.A. from Brown University in economics and communications, and attended Antioch Law School.

Here is our panel. We will start with Mr. Vial. Come on down.

MR. VIAL: Well, I am delighted to be here, and I'm particularly pleased that Commissioner Rowe has recognized the role and the privilege we had in participating in shaping the structure and mission of this Joint Conference, and in his recent article on the strategies to promote advanced telecommunications capability, he referenced this effort of APT in our filing two years ago on 706.

And a few people, I think, have read fully into that filing the second where we advance proactive policies, particularly proactive policies to develop demand pool strategies, promoting community-based partnerships to abort what we saw then clearly as the growing digital divide. We have embraced the marketplace to combat that divide. We embrace that marketplace, as everybody knows, for its creativity and its innovative capacity. There are a few that would accuse it of having a pension for distributing in an egalitarian way those benefits and capacity, and that's

what our challenge is.

And I think that it's important as the Joint Conference goes into its field hearings that it begin looking at the relationship of 706 to 254. The market has no values as we know. That is its brilliance. It has no values. And if we are going to impose values on it, we have to impose it through expressed funding mechanisms unless we can make it work better. And we all know what the limitations are of those explicit funding mechanisms, having gone through the E-rate battles.

So we need to get a better perspective on how far we can go with explicit funding mechanisms and how we have to rely more effectively on making the marketplace work to achieve the goals of 706.

And that leads to the role of the communities, and I as a regulator in the past, I think, share responsibility for virtually having dumped a lot of the problems of how the marketplace works out on the local communities with a proscription that they can't interfere with the operations of the marketplace.

Yet we have to flesh out what is the role, how far can communities go in working and developing partnerships with those that are rolling out high-capacity bandwidths to make sure that we are bridging that divide, and developing applications that are relevant to the lives and the cultures

of the people.

There is no way that we can develop a market for these advanced technologies unless we develop a value base for these technologies in the communities. And we have proven over and over again in our allocation of funds in building and developing CTCs and much of the philanthropy, the enabling character of these technologies.

Yet why is it that we don't have much R&D coming into the communities, developing these technologies and developing these markets? This is a very important part of the mission, I think, of this organization, to find out in this community what is going on. CTCs now, as you -- if you read the -- I'm on the list of CTC Net, they are looking at networking. And we have to begin looking at what we can do to make it feasible for that R&D to come into the communities.

We can wring our hands and say the marketplace is unreliable, it has no values. Yes, that's true. But we have to look at what we can do in the communities to organize ourselves to form the infrastructure that makes it feasible to overcome the opportunity costs of investing and developing markets in these margionalized communities. That's the only way we are going to get the market to work, and I have a lot of experience in working in these areas and I can share it with you today.

Thank you.

MS. SANFORD: Thank you.

Mr. White?

MR. WHITE: Thank you very much, Madam Chair, members of the Joint Conference. It's a pleasure to be here today. This is a very timely conference. And as I was driving out of my office on Connecticut Avenue trying to get around the street trucks, I think this is a company that's cutting in that area down there, they have cut the traffic light so that we have policemen directing the traffic and as a result I was a bit late. But it's ironic that it's almost impossible to travel in any downtown corridor any place in this country in a major city, but where we work in the hood there are not street cuts. It's just as simple as that.

There is a growing digital divide in this country notwithstanding the trillions of dollars which have come in off the street to pilot start-up companies like ours. We do not have the trillions, let me say, but the pilot start-up companies, but they do not focus on areas which we know a band-width which and require band-width hungry services.

Instead they focus on what they consider to be the more viable and valuable communities, and it reminds me very much of two and a half decades ago when there was a similar myth in this country. I happened to be a practicing attorney then, and representing a number of cities on cable

television negotiations. One of the most difficult tasks we had then was to get equal line extension inside the cities, and that was because there was a standing presumption that you could not build cable in the inner city area.

I know that Comcast would agree with me that one of its most valuable markets today and one of the reasons it has been able to grow that industry as it has is a direct result of the penetration levels they have enjoyed in the inner city.

There is a similar myth today and that myth is there is no data traffic in underserved communities. We know it's not accurate and we know it and we've put out money where our mouths are, and that happens to be our area of focus, that's the underserved communities.

I am pleased to say that I understand the Joint Conference is going to tour the Montana Terrace Smart Home Community this afternoon. My time is expiring but I think I can do it in the last minute, give you a snapshot of it.

It is a project that we developed in consultation with Fannie Mae and Riggs Bank, a local developer. It's a proof of concept, and it is to deploy a broadband technology and marry that with housing construction as the sticks and bricks are going up. We are the CLEC, we are the carrier, we do DSL, we have a number of telemedicine partners, including Children's Hospital and Providence Hospital

locally. We have a number of experts who are specialized in telemedicine distance education and the sum and substance is because we know there is a market we create the market, we create the uses.

And I suspect that when this story ends the inner city areas will yield as much, if not more, data transmission, one-stop shopping as any other sector in the residential market in this country.

So I thank you for the invitation. I would be pleased to address any questions that might arise later. Thank you.

MS. SANFORD: Thank you, Mr. White.

Mr. Coltharp?

MR. COLTHARP: Thank you, Madam Chairman, Commissioners. Thank you for inviting Comcast to discuss our initiates to serve customers and build stronger relationships in urban communities.

My name is James Coltharp. I am Senior Director of Public Policy for Comcast Corporation. Comcast is the nation's third largest cable operator with 8 million customers in 26 states. We are assembling geographic clusters of cable systems that include or will soon include urban areas in Philadelphia, Detroit, Baltimore and Washington, D.C.

This afternoon I would like to highlight Comcast's

role in deploying new broadband services in these communities where we are working with schools, libraries and community centers to expand broadband opportunities and develop grass root efforts that go beyond the availability of broadband facilities in those communities.

With its origin with one cable system in Mississippi, Comcast's story is one of steady family ownership by the Roberts family. Our story is one of responding to competition, identifying new opportunities and investing in and offering new broadband services throughout our service areas.

I would like to emphasize that we are committed to deploying our broadband services in every neighborhood we are fortunate to serve. By the end of the year 2000, we expect that we will be no target with upgrades in Philadelphia, Detroit. We have completed already upgrades in Trenton, New Jersey, and we will be moving forward with upgrades in other cities including Washington, D.C. and Baltimore City upon completion of those acquisitions.

Comcast is working toward fulfilling the goals of the 1996 Telecommunications Act. We've spent over $2 billion over the last three years to expand our broadband plant. We realize that it takes many hands to build a bridge across the digital divide. Comcast and the cable industry are doing our part in several ways.

Comcast President Brian Roberts led the cable industry in creating the high-speed education initiative in 1996. As an industry, we now provide free cable modem service to over 5700 of America's primary and secondary schools. Comcast alone offers service to over 700 schools, 70 libraries and each modem offers five connections. This initiative is not underwritten in any way through the Government Universal Service Funds. We also serve well over 200 schools through commercial E-rate contracts.

Yesterday Comcast Cable Communications in Michigan connected its first school in the City of Detroit, the Coleman & Young Elementary School, to it's Comcast At-Home high speed service. In the next few weeks we will complete the connection of our first school in Prince George's County, Maryland. We expect to add another 750 free high-speed connections in the D.C. area alone in the next few years.

We have established other community partnerships to drive broadband access deeper into the community. For example, in Philadelphia we have connected 11 police athletic league homework centers to the internet where we provide service, equipment, mentoring and volunteers, training in basic computer skills in the after-school setting, and training for the police officers who are working with students and their families.

Based on our experience, we are finding a systematic need for teacher training. Clear incentives need to be created not only to demonstrate the potential impact of broadband services on teaching and learning, but also to reward teachers through promotion,, peer recognition and credit toward graduate degrees. Teachers also need to see what is working in similar classrooms and how to know where they can go for additional resources.

We soon will announce that we will be funding an internet training program for teachers in one of our major urban centers, a partnership with an established university experienced in providing high-quality training for educators. This program will build on our training initiatives that exist already, including training courses made available through cable in the classroom and through Comcast's new tech center in Maryland courses that began for the spring semester last evening.

When Congress, in 1996, said to cable go out, invest and complete, we took that challenge. Urban communities in Philadelphia and Detroit, soon to come in Baltimore and Washington, are benefitting from this. As we bridge the digital divide, and we make advanced broadband services widely available, we are looking to a number of these initiatives. We have several other training initiatives, several other tools that we are putting in the

hands of educators, and we look forward to telling you this story over the next couple of years.

I thank you for the chance to tell it this morning and I look forward to your questions.

MS. SANFORD: Thank you, Mr. Coltharp.

We are going to turn next to Lisa Zifcak; is that correct?

MS. ZIFCAK: That's right.

MS. SANFORD: Before we do, we want to welcome Mr. Thomas to our panel. You have already been well introduced by Commissioner Irma Dixon, and we are glad that your train got here. We appreciate your making the extra effort to join us.

Lisa.

MS. ZIFCAK: Okay, I'll be very brief.

Thank you for the opportunity. This is very timely. I am analyst for the Consumer Energy Council of America and we just completed our Broadband Access Summit and published the report, and so it's very timely that the Joint Conference is meeting now and that I have this opportunity to share whatever information I can from the results of this summit.

At CECA, we are the nation's oldest public interest organization with a focus on energy, and more recently, telecommunications. We conduct nonpartisan

research and analysis of social and economic impacts of essential service policies and what we really do and our mission is really conducting consensus-building forums on particular issues, you know, that we see that are important and sometimes controversial.

And I was really happy to hear Kathy Brown's endorsement this morning of the consensus-building approach because I really think our experience with the Broadband Access Summit and other forums has been extremely beneficial in sort of fleshing out the really important issues and coming to some agreement.

As many of you know, there is major convergence going on between telecommunications and utilities, and in the United States you may not be aware, but the utilities have over 30,000 miles of fiber optic networks, and obviously ownership of key rights-of-way, and this is a $240 billion a year industry, and obviously potential to provide some of the same high-speed services, and again this is probably down the road a bit, but out of that convergence forum where we were tackling these issues came the idea for this summit on broadband access.

And just briefly, what came out of that, some of the highlights and hopefully some things I can speak on today are basically analysis of the technologies that are out there, deployment including some of the most current

deployment figures for cable and DSL fourth quarter of 1999, and these -- the summit was basically composed of, just as a background, over 50 leaders, private industry, government, consumer advocates, including AT&T, AOL, Mindspring, Consumer Federation of America and NATOA and was chaired by Bob Rowe, and we're very lucky and fortunate to have Bob because as you can imagine this is a quite contentious issue and Bob did just a fantastic job of keeping everybody focused.

Some highlights from the summit that the group discussed and that may be pertinent for this discussion is the issue of regulatory asymmetry and how that's affecting deployment and how -- well, how it affects the access issue which was our focus, but the possibility of, you know, how those policies are affecting deployment of DSL and cable, and public policy questions to consider. Our stakeholders agreed on what they feel are the right questions that policymakers should be asking about broadband and alternatives, and some of these do relate specifically deployment and the public impact of deployment.

And with that, I would just like to conclude and thank you again for the opportunity.

MS. SANFORD: Thank you, Lisa.

Vincent Thomas is the economic development specialist for New York Assemblyman Albert Vann, as we

heard. We will ask him for two to three minutes of his perspective on inner city broadband deployment.

MR. THOMAS: Thank you very much. I'll try to get oriented as a six-hour train ride from Albany. Well, one thing nice about it the temperature dramatically changed for the positive, so I'm enjoying that.

Assemblyman Albert Vann has been chairman of the committee we call Corporations, Authorities and Commissions since about 1993, and he is also chair of the Telecommunications and Energy Committee for the National Black Caucus of State Legislators, which gives him a unique opportunity to both look at -- from a chairman's point of view in his own state -- the deployment of broadband telecommunication services and have some impact on it in New York as well as take our lessons and hopefully spread them around to the over 600 black legislators that are in the United States.

To begin with, in 1994, during the first year of his chairmanship, he found that his own district in Bedford Stivascent still had analogue switches in the central office that had not been changed out since 1964. So obviously I think we need to understand that there has to be a proactive strategy to make sure that we don't rely simply on the marketplace and there has to be certain kinds of tools that are available to us to ensure that broadband is deployed in

an equitable and broad-based fashion.

One of the things that we looked at in the beginning, and this is -- if you remember those days, pre-internet -- the idea of broadband telecommunications was just something that hopefully people thought would just grow with no stimulation, and obviously it was slow and the deployment of broadband infrastructure was not coming to underserve and working poor and poor communities simply because it was thought that there was not the income to pay for those kinds of services.

One of the things that we did was an applications-driven deployment strategy called a Diffusion Fund. The Diffusion Fund took the assumption that if community-based organizations, educational institutions, and other nonprofit centers, health, et cetera, would partner to bring applications and information services that were needed in the community directly to the community and design those things in a forum that would be acceptable by Committee of Oversight, then possibly that would be successful.

What that meant was is some of that investment, of course -- a lot of it -- went into the actual infrastructure because the infrastructure was not available in the communities that we had designated as able to get this investment.

Now, since that time, of course, the internet has

sort of become the word and the idea of interactive communications. It's now perceived everywhere. So obviously deployment is moving faster. But still we look at benchmarks in our own state, like service quality, and usually if you look at your service quality measurement and the places where we call hotspots, you may probably find also a lag in broadband deployment, so there seems to be a match there which public service commissions and public utility commissions can use as an effective tool, which we have done in New York in order to ensure that where we find the hotspots trouble reports, all of the measurements that you know so well, usually you will find a broadband deployment problem.

At the same time when Bell Atlantic acquired NYNEX one of the things that we were concerned about and wanted to make sure was that those service -- that the service quality, the deployment, the upgrade would continue and there would be certain benchmarks in a 10-point program which Bell Atlantic has followed fairly well.

Also I see my time is going so I will try to rush through this. Just to make a point about that is that both legislators and regulatory commissioners at the state level can use the process of service quality measurement and franchise, refranchising in cable to make sure that there is a deployment strategy that's bringing broadband and bringing

the kind of infrastructure to the communities at the same time, at relatively the same time, and I would urge you to use that technique.

MS. SANFORD: Thank you, Vincent, very much.

Our format is the same as for panel one. I have questions that I will pose to the panel. We request responses from whoever feels most moved to provide one, and our Joint Conference members will participate as well with questions and observations of their own.

First question, what specific things have communities done to attract and/or accelerate broadband deployment; i.e., public/private partnerships, demand aggregation, et cetera? And are there any sources of best practices?

So first of all, what specific things have communities done with respect to aggregation, and secondly, do you know of any sources you can tell us about for best practices as to how to conduct these programs.

MR. WHITE: I'll take a stab at least with respect to what we have done and some of the reasons why we did it in the proof of concept model.

One of the first things we did was to make an assessment inside the community and we served as the stemlender because it is a business for us. This is not a grant activity. We are in the midst of what one does as

part of the financial development activity, private placements and the like, so our first assessment was where are the revenue streams inside this community.

We believe that in the short term, not the long term, that the margins that exist with respect to what we call commodity connections, local long distance and the like, will diminish even more as to the RBOCs obviously obtain long distance and the like and they will compress those prices, so we don't look to that as a revenue stream.

We do look to broadband and human resource activity as a revenue stream. So one of the first things we did was to talk to the -- bring in our telemedicine experts and our distance education experts. We configured program that were designed for the community to do telemedicine and distance education.

We recognized that the docs were not going to be at the table for an extended period of time if they were not paid. We brought in reimbursement specialists. They are working -- in fact, they have worked out an accord to get the docs in the hospitals paid. We don't need to worry about them staying there. We brought in a local housing authority to give us a smart for the network center, remote access network, and we brought in our community development specialist to train the residents to operate it so it's a self-sufficient center.